TECHSPEC® GOLD SERIES FOCUSABLE TELECENTRIC LENS
#58-256 • 98 - 123mm WD • 0.73X

Important tools for machine vision systems and metrology applications, TECHSPEC® Gold Series Focusable Telecentric Lenses yield images from which precise measurements can be taken. These lenses yield constant magnification over a defined depth of field and are optimized to provide <0.2° telecentricity when used in the specified working distance range. Anywhere within the specified working distance, the same magnification can be obtained simply by refocusing. Both the aperture and focusing adjustment positions can be fixed by set screws to remain secure in high vibration environments.

Primary Magnification:	0.73X
Working Distance[1]:	98 - 123mm
Depth of Field[2]:	±0.95mm at f10 (20% @ 20 lp/mm)
Length:	200.1mm
Filter Thread:	M62 x 0.75
Max. Sensor Format:	1/1.8"
Camera Mount:	C-Mount

Telecentricity:	<0.1°
Distortion:	<0.1%
Resolution[2]:	>65% @ 40 lp/mm
Aperture (f/#):	f/6 - f/19.5, lockable
Object Space NA:	0.061
Number of Elements (Groups):	10 (7)
AR Coating:	425 - 675nm BBAR
Weight:	1.10kg

Sensor Size	1/4"	1/3"	1/2.5"	1/2"	1/1.8"	2/3"	1"	4/3"
Field of View[3]	4.9mm	6.6mm	7.8mm	8.8mm	9.8mm	N/A	N/A	N/A

1. From front of housing 2. Image space MTF contrast 3. Horizontal FOV on standard 4:3 sensor format

Specifications subject to change

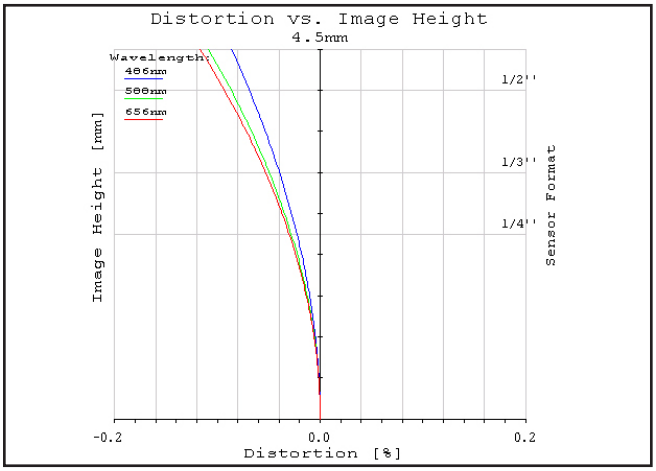

Figure 1: Distortion at the maximum sensor format. Positive values correspond to pincushion distortion, negative values correspond to barrel distortion.

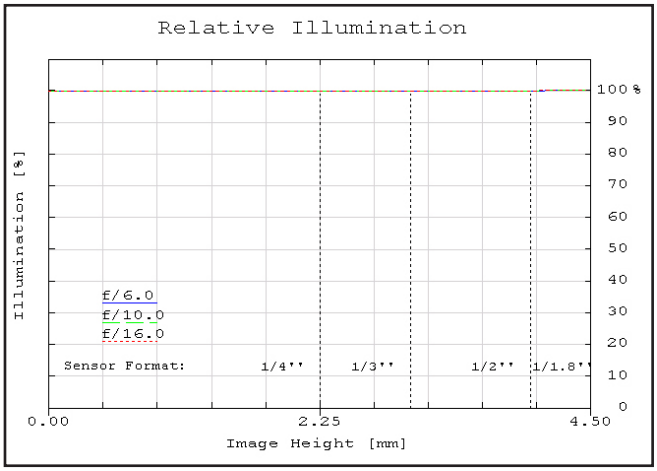

Figure 2: Relative illumination (center to corner)

In both plots, field points corresponding to the image circle of common sensor formats are included. Plots represent theoretical values from lens design software. Actual lens performance varies due to manufacturing tolerances.

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MTF & DOF: f/6.0

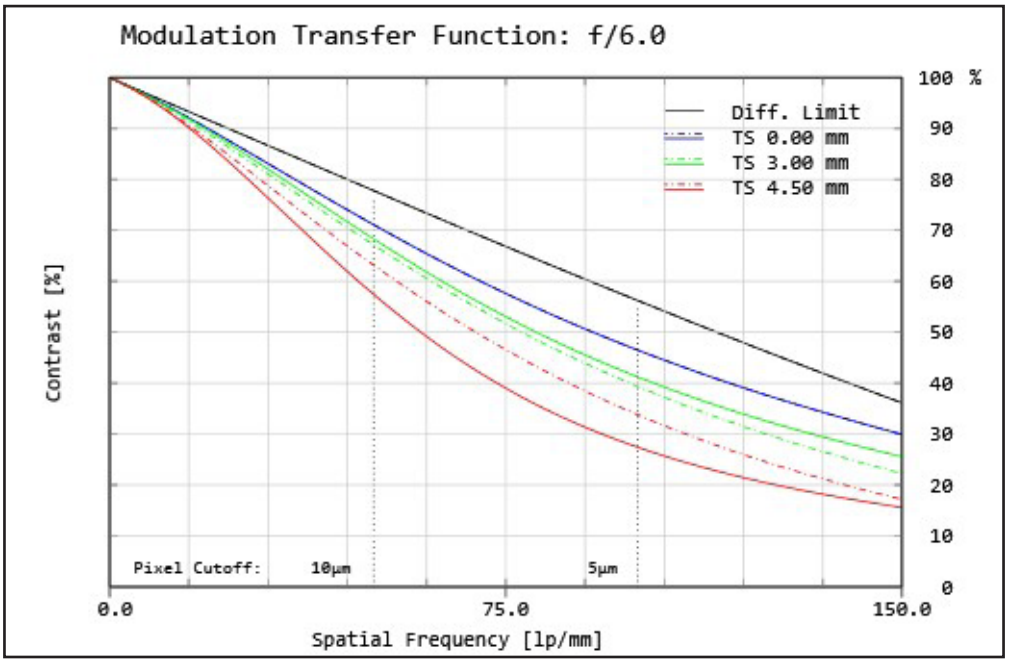

Figure 3: Image space polychromatic diffraction FFT Modulation Transfer Function (MTF) for λ = 486nm to 656nm. Included are Tangential and Sagittal values for field points on center, at 70% of full field and at the maximum sensor format. Solid black line indicates diffraction limit determined by f/#-defined aperture. Frequencies corresponding to the Nyquist resolution limit of pixel sizes are indicated.

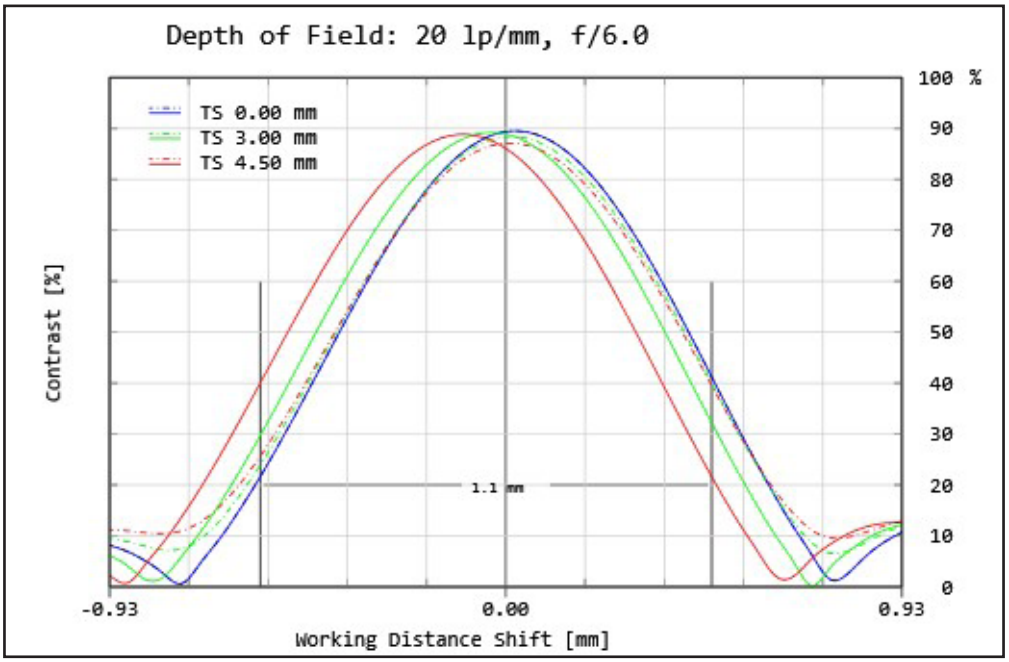

Figure 4: Polychromatic diffraction through-focus MTF at 20 linepairs/mm (image space). The depth of field at the maximum sensor format for the plotted frequency and f/# at 20% contrast is indicated by the measurement bars.

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MTF & DOF: f/10.0

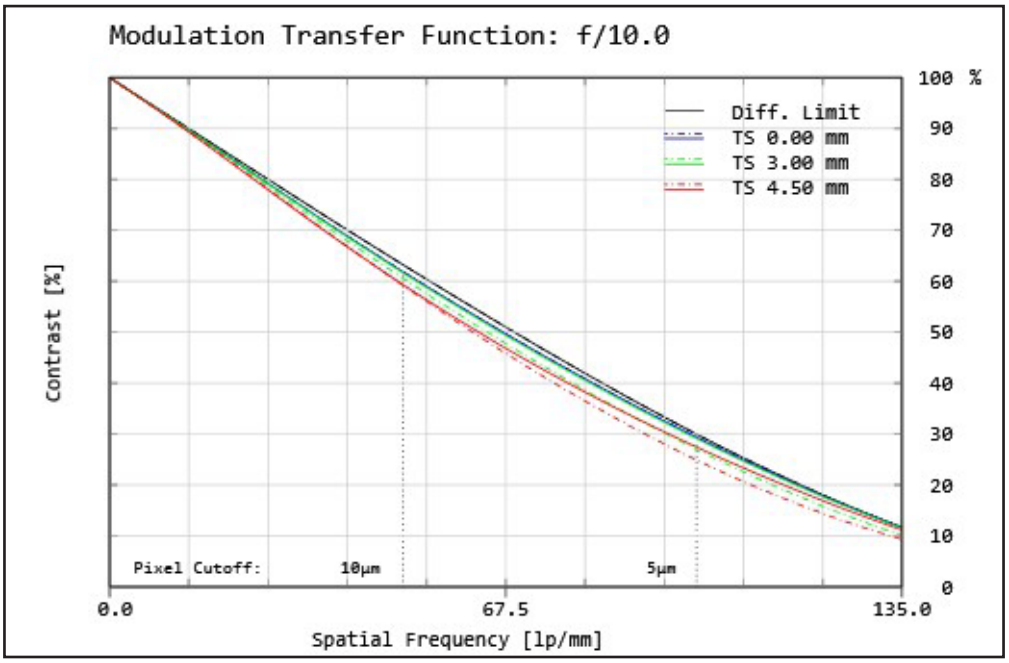

Figure 5: Image space polychromatic diffraction FFT Modulation Transfer Function (MTF) for λ = 486nm to 656nm. Included are Tangential and Sagittal values for field points on center, at 70% of full field and at the maximum sensor format. Solid black line indicates diffraction limit determined by f/#-defined aperture. Frequencies corresponding to the Nyquist resolution limit of pixel sizes are indicated.

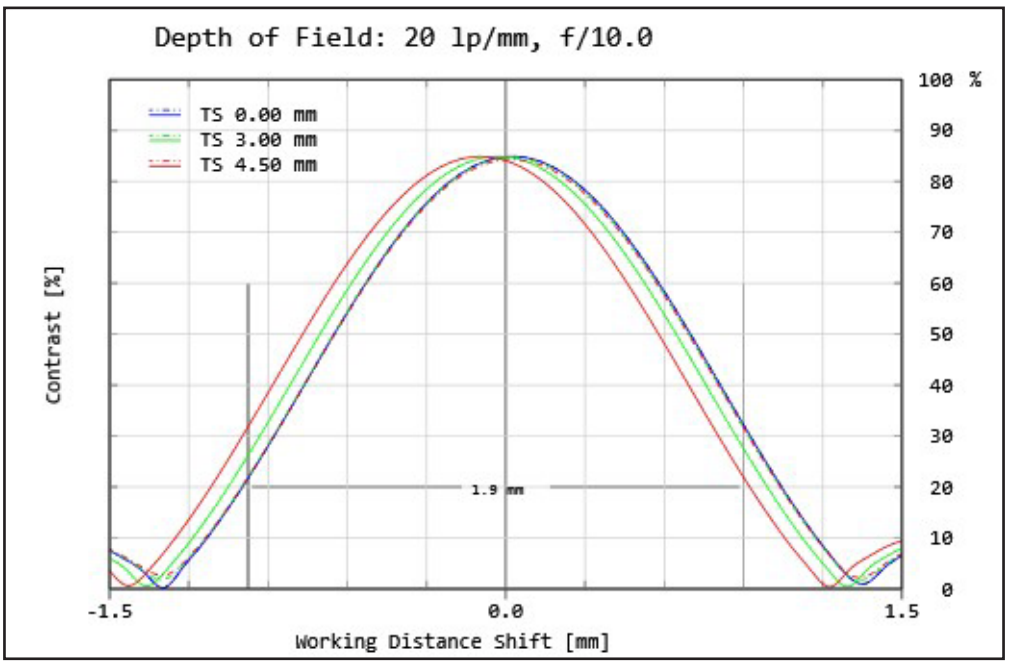

Figure 6: Polychromatic diffraction through-focus MTF at 20 linepairs/mm (image space). The depth of field at the maximum sensor format for the plotted frequency and f/# at 20% contrast is indicated by the measurement bars.

Plots represent theoretical values from lens design software. Actual lens performance varies due to manufacturing tolerances.